UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address : COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
08/399,285	03/06/95	MANNAVA S	13DV-12142

34M1/0404

ANDREW C HESS
GENERAL ELECTRIC COMPANY
ONE NEUMANN WAY H 17
CINCINNATI OH 45215-6301

EXAMINER	
VERDIER,C	
ART UNIT	PAPER NUMBER
3401	10

DATE MAILED: 04/04/97

NOTICE OF ABANDONMENT

This application is abandoned in view of:

1. ☐ Applicant's failure to respond to the Office letter, mailed _____ .
2. ☐ Applicant's letter of express abandonment which is in compliance with 37 C.F.R. 1.138.
3. ☐ Applicant's failure to timely file the response received _____ within the period set in the Office letter.
4. ☐ Applicant's failure to pay the required issue fee within the statutory period of 3 months from the mailing date of _____ of the Notice of Allowance.

   ☐ The issue fee was received on _____ .

   ☐ The issue fee has not been received in Allowed Files Branch as of _____ .

   In accordance with 35 U.S.C. 151, and under the provisions of 37 C.F.R. 1.316(b), applicant(s) may petition the Commissioner to accept the delayed payment of the issue fee if the delay in payment was unavoidable. The petition must be accompanied by the issue fee, unless it has been previously submitted, in the amount specified by 37 C.F.R. 1.17 (l), and a verified showing as to the causes of the delay.

   If applicant(s) never received the Notice of Allowance, a petition for a new Notice of Allowance and withdrawal of the holding of abandonment may be appropriate in view of Delgar Inc. v. Schuyler, 172 U.S.P.Q. 513.

5. ☐ Applicant's failure to timely correct the drawings and/or submit new or substitute formal drawings by _____ as required in the last Office action.
   ☐ The corrected and/or substitute drawings were received on _____ .
6. ☒ The reason(s) below.

Abandoned for file wrapper continuation
S.N. 08/719,341.

CHRISTOPHER VERDIER
PATENT EXAMINER
GROUP 3400

PTO-1432 (REV. 5-83)

Part III DETAILED ACTION

Double Patenting

1. Claims 1, 6, 11 and 16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Application No. 08/399287 (patent No. has not yet been issued). Although the conflicting claims are not identical, they are not patentably distinct from each other because, the claims recited above are broader since they lack the limitation of a means to counter distortion as found in claim 1, of U.S. Application No. 08/399287. Such broader claims in the application are said to "dominate" the more narrow claims in the application (patent) which contain additional elements. Thus, when the patent expires, one making the invention set forth in the then expired claims would be infringing the claims of the instant application. This would constitute an unlawful extension of monopoly as set forth in the law. In re Braithwaite 154 USPQ 38,40.

The non-statutory double patenting rejection, whether of the obvious-type or non-obvious-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornam*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and *In re Goodman*, 29 USPQ2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321 (b) and (c) may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78 (d).

Effective January 1, 1994, a registered attorney or agent of record may sign a Terminal Disclaimer. A Terminal Disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

3. Claims 1-8, 11-13, 16-18 are rejected under 35 U.S.C. § 103 as being unpatentable over Neal et al 4426867 in view of the publication entitled, American Machinist, "Laser shocking extends Fatigue life", July 1992 (Publication). Neal et al discloses a gas turbine engine component comprising a metallic airfoil having a leading edge 22 and a trailing edge 24 and a pressure side 26 and a suction side 28 where the blade edges (leading and trailing) are shot peened (col., line 5). Neal also discloses the leading edge having a first shot peened surface 152 located along said pressure side of said leading edge, and a first region having deep compressive residual stresses extending into said airfoil from the first shot peened surface, and a second shot peened surface 154

located along said suction side of said leading edge (figure 8), and a second region having deep compressive residual stresses extending into the airfoil from the second shot peened surface. Neal et al discloses the claimed invention except for the edges being Laser shock peened. The publication teaches that it is known to laser shock peen turbine blades as set forth in (col. 3, line 36) and to further laser shock peen both sides of an airfoil simultaneously (col. 3, lines 13-15). It would have been obvious to one having ordinary skill in the art at the time the invention was made to simultaneously laser shock peen the edges of the shot peened blade, as taught by the Publication in order to obtain a region having deep compressive residual stresses imparted by laser shock peening extending into said airfoil from said laser shock peened surface so as to better improve the fatigue life of engine blade alloys.

In regards to claims 4, 5 and 17 where the pressure side and suction side of the trailing edge are laser shock peened and extend chordwise into the blade, although Neal et al disclose the trailing edge being shot peened and the publication teaches that shot peening can be replaced by laser shock peening, it is not specifically disclosed that both the pressure and suction surfaces are treated by the hardening process. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to work harden (Laser shock peen) both trailing edge surfaces since it was implied by Neal et al that both blade surfaces (leading edge side) are to be shot peened and it is known in the art that both surfaces of a blade edge are to be shot peened , thus it would have been also obvious to laser shock peen both sides of the trailing edge, so as to improve fatigue life of the trailing edge and extend the service life of the blade by making it more resistant to damage due to wear.

4. Claims 9, 10, 14, 15, 19 and 20 are rejected under 35 U.S.C. § 103 as being unpatentable over Neal et al 4426867 and the publication entitled, American Machinist,"Laser shocking extends Fatigue life" July 1992 (Publication) and further in view of Japanese 64104. The modified Neal et al invention discloses the claimed invention except for the blade being a repaired blade. The Japanese reference teaches that it is known to repair blade edges 1. It would have been obvious to one having ordinary skill in the art at the time the invention was made to Laser shock peen a repaired blade edge as taught by the Japanese reference, since the Japanese reference shows in the figures that such a modification would have been obvious so as to be able to re-use the blade, thus keeping blade replacement cost down, while improving the fatigue life of the blade.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Sgantzos whose telephone number is (703) 308-2624.

M.S.
November 29, 1995

Thomas E Dene

THOMAS E. DENION
PRIMARY EXAMINER
GROUP 3400